

# WHAT IS CLAIMED IS:

1. A polishing composition for a substrate for memory hard disk, comprising silica particles in an aqueous medium, wherein the silica particles satisfy a relationship between an average particle size ( $r$ ) of the silica particles on the number basis and a standard deviation ( $\sigma$ ) on the number basis of the following formula (1):

$$\sigma \geq 0.3 \times r \quad (1)$$

wherein  $r$  is an average particle size (nm) of the silica particles on the number basis, and  $\sigma$  is a standard deviation (nm) on the number basis, wherein the average particle size is obtained by a determination by transmission electron microscope (TEM) observation, and wherein a relationship between a particle size ( $R$ ) and a cumulative volume frequency ( $V$ ) in a range of particle sizes of from 60 to 120 nm satisfies the following formulas (2) and (3):

$$V \geq 0.5 \times R \quad (2)$$

$$V \leq 0.25 \times R + 75 \quad (3)$$

wherein  $R$  is a particle size (nm) of the silica particles, and  $V$  is a cumulative volume frequency (%) counted from a small particle size side of the silica particles.

2. The polishing composition according to claim 1, wherein the silica particles are colloidal silica particles.

3. The polishing composition according to claim 1, further comprising at least one member selected from the group consisting of acids, salts thereof and oxidizing agents.

5 4. The polishing composition according to claim 2, further comprising at least one member selected from the group consisting of acids, salts thereof and oxidizing agents.

10 5. The polishing composition according to claim 1, wherein a pH thereof is from 1 to 4.5.

6. The polishing composition according to claim 2, wherein a pH thereof is from 1 to 4.5.

15 7. The polishing composition according to claim 3, wherein a pH thereof is from 1 to 4.5.

20 8. The polishing composition according to claim 4, wherein a pH thereof is from 1 to 4.5.

9. A method of reducing microwaviness of a substrate for memory hard disk, comprising the step of polishing the substrate for memory hard disk with the polishing composition of claim 1.

25 10. A method of reducing microwaviness of a substrate for memory hard disk,

comprising the step of polishing the substrate for memory hard disk with the polishing composition of claim 2.

11. A method of reducing microwaviness of a substrate for memory hard disk, comprising the step of polishing the substrate for memory hard disk with the polishing composition of claim 3.

12. A method of reducing microwaviness of a substrate for memory hard disk, comprising the step of polishing the substrate for memory hard disk with the polishing composition of claim 4.

13. A method of reducing microwaviness of a substrate for memory hard disk, comprising the step of polishing the substrate for memory hard disk with the polishing composition of claim 5.

14. A method of reducing microwaviness of a substrate for memory hard disk, comprising the step of polishing the substrate for memory hard disk with the polishing composition of claim 6.

15. A method for manufacturing a substrate for memory hard disk, comprising the step of polishing an Ni-P plated substrate for memory hard disk with the polishing composition of claim 1.

16. A method for manufacturing a substrate for memory hard disk, comprising the step of polishing an Ni-P plated substrate for memory hard disk

with the polishing composition of claim 2.

17. A method for manufacturing a substrate for memory hard disk,  
comprising the step of polishing an Ni-P plated substrate for memory hard disk  
5 with the polishing composition of claim 3.

18. A method for manufacturing a substrate for memory hard disk,  
comprising the step of polishing an Ni-P plated substrate for memory hard disk  
with the polishing composition of claim 4.

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19. A method for manufacturing a substrate for memory hard disk,  
comprising the step of polishing an Ni-P plated substrate for memory hard disk  
with the polishing composition of claim 5.

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20. A method for manufacturing a substrate for memory hard disk,  
comprising the step of polishing an Ni-P plated substrate for memory hard disk  
with the polishing composition of claim 6.